

For Comments Only

BUREAU OF INDIAN STANDARDS

DRAFT FOR COMMENTS ONLY

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भारतीय मानक मसौदा

अंतरिक्ष प्रणालियाँ – अंतरिक्ष वातावरण (प्राकृतिक और कृत्रिम) – जीईओ पर लंबी अवधि में देखे गए प्रोटॉन प्रवाह और सौर प्रोटॉन प्रवाह हेतु आत्मविश्वास के स्तर के चयन के लिए सांख्यिकीय मॉडल हेतु दिशानिर्देश

Draft Indian Standard

Space Systems — Space Environment (Natural and Artificial) — Observed Proton Fluences Over Long Duration at Geo and Guidelines for Selection of Confidence Level in Statistical Model of Solar Proton Fluences

ICS: 49.140

**Air and Space Vehicles Sectional Committee, TED 14 Last date for receipt of comments is
28/08/2024**

NATIONAL FOREWORD

(Identical Clause to be added later)

This Indian Standard which is identical with ISO 12208 : 2015 ‘Space Systems — Space Environment (Natural and Artificial) — Observed Proton Fluences Over Long Duration at Geo and Guidelines for Selection of Confidence Level in Statistical Model of Solar Proton Fluences’ issued by International Organization for Standardization (ISO), was adopted by the Bureau of Indian Standards on the recommendations of Air and Space Vehicles Sectional Committee and approval of the Transport Engineering Division Council.

The text of ISO standard has been proposed as suitable for publication as an Indian Standard without deviations. Certain terminologies and conventions are, however, not identical to those used in Indian Standards. Attention is particularly drawn to the following:

- a) Wherever the words ‘International Standard’ appear referring to this standard, they should be read as ‘Indian Standard’.
- b) Comma (,) has been used as a decimal marker, while in Indian Standards, the current practice is to use a point (.) as the decimal marker.

Attention is drawn to the possibility that some of the elements of this standard may be the subject of patent rights. The Bureau of Indian Standards shall not be held responsible for identifying any or all such patent rights.

For the purpose of deciding whether a particular requirement of this standard is complied with, the final value, observed or calculated, expressing the result of a test or analysis, shall be rounded off in accordance with IS 2 :

2022 'Rules for rounding off numerical values (*second revision*)'. The number of significant places retained in the rounded off value should be the same as that of the specified value in this standard.

SCOPE

This International Standard describes a method to estimate energetic proton fluences in geosynchronous earth orbit (GEO) over a long duration (beyond the 11-year solar cycle), and presents guidelines for the selection of a confidence level in a model of solar proton fluences to estimate solar cell degradation.

Many of the proton data observed in GEO are archived, for example from GMS (Japan), METEOSAT (ESA) and GOES (USA). This method is a direct integration of these fluence data (or the observed data over 11 years is used periodically).

As a result, the confidence level can be selected from a model of solar proton fluences.

This International Standard is an engineering-oriented method used for specific purposes such as estimating solar panel degradation.

FOR COMPLETE TEXT OF THE DOCUMENT KINDLY REFER ISO 12208: 2015 or CONTACT:

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